Air Quality Permitting
Statement of Basis

June 21, 2005

Tier II Operating Permit and Permit to Construct No. T2-040102

Interstate Concrete and Asphalt Company, Sandpoint

Facility ID No. 017-00048

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FINAL PERMIT

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Acronyms, Units, and Chemical Nomenclature

AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
CAA	Clean Air Act
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
EPA	Environmental Protection Agency
gr/dscf	grains (1 lb = 7,000 grains) per dry standard cubic foot
HAPs	Hazardous Air Pollutants
IDAPA	A numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
lb/hr	pound per hour
MACT	Maximum Available Control Technology
MMBtu/hr	million British thermal units per hour
NESHAP	Nation Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
NSPS	New Source Performance Standards
O&M	operation and maintenance manual
PAH	polyaromatic hydrocarbon
PM	particulate matter
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
ppm	parts per million
PSD	Prevention of Significant Deterioration
PTC	permit to construct
Rules	*Rules for the Control of Air Pollution in Idaho*
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SM	synthetic minor
SO_2	sulfur dioxide
TAPs	toxic air pollutants
TSP	total suspended particulate
T/yr	tons per year
$\mu g/m^3$	micrograms per cubic meter
UTM	Universal Transverse Mercator
VOC	volatile organic compound

1. PURPOSE

The purpose for this memorandum is to satisfy the requirements of IDAPA 58.01.01 Section 201, *Rules for the Control of Air Pollution in Idaho* (*Rules*) for Permits to Construct, and to satisfy the requirements of IDAPA 58.01.01.404.04, *Rules* for the renewal of Tier II operating permits.

2. FACILITY DESCRIPTION

Interstate Concrete and Asphalt Company at Sandpoint operates a Barber Greene DA-65 batch mix hot mix asphalt plant dryer. A concrete batch plant and aggregate handling are also located at the Sandpoint plant.

3. FACILITY / AREA CLASSIFICATION

Interstate Concrete and Asphalt Company is defined as a synthetic minor facility because, without permit limits on the potential to emit, the PM_{10}, CO, and NO_X emissions would exceed 100 tons per year each. The AIRS classification is "SM" because the potential to emit of CO and NO_X are limited to less than major source levels by limiting the throughput of the asphalt plant. The potential to emit of PM_{10} is limited to less than major source levels by the use of a baghouse.

The facility is located within AQCR 63 and UTM zone 11. The facility is located in Bonner County and in the Sandpoint PM10 Nonattainment Area. The Tier II Operating permit issued to this facility is identified as a control measure in the PM10 Air Quality Improvement Plan for Sandpoint, August 1996. Bonner County is designated attainment for ozone and unclassifiable for all other criteria pollutants (CO, NO_X, SO_2, and lead). The Sandpoint area is designated attainment for $PM_{2.5}$. Outside of the Sandpoint PM10 nonattainment boundary, Bonner County is unclassifiable for PM10.

The AIRS information provided in Appendix B defines the classification for each regulated air pollutant at Interstate Concrete and Asphalt Company. This required information is entered into the EPA AIRs database.

4. APPLICATION SCOPE

Interstate Concrete and Asphalt Company has submitted an application to add the capability to use on-spec oil and fuel oil for the existing hot mix asphalt plant.

This PTC action is incorporated into the existing Tier II Operating Permit, No. 017-00048, issued August 2, 1999. In addition, the Tier II operating permit is being renewed. The Tier II permit format is updated as follows:

- Add facility-wide permit conditions
- Update the IDAPA references to the new numbering system (currently IDAPA 58, formerly IDAPA 16)
- Remove permit limits which applied only until July 1, 1996
- Require continued compliance with conditional control measures
- Reference updated fugitive dust control plan
- Renumber permit conditions

4.1 Application Chronology

February 2, 2004	PTC application received
February 25, 2004	Application determined complete
March 2004	Request for a public comment period received
March 5, 2004	Request for draft permit received
April 21, 2004	DEQ provided draft permit for facility review and Regional Office review
May 18, 2004	Comments received from Coeur d'Alene Regional Office
March 23, 2005 – April 21, 2005	Public comment period held

5. PERMIT ANALYSIS

This section of the Statement of Basis describes the regulatory requirements for this PTC.

5.1 Equipment Listing

Drum Dryer

Manufacturer:	Barber Greene DA-65
Rated heat capacity:	36 MMBtu/hr
Production capacity:	200 tons/hr
Allowable Fuels:	natural gas, propane, distillate fuel oil, and used oil

5.2 Emissions Inventory

The estimated emissions from this PTC project are shown in Table 5.1 and in the technical memorandum in Appendix A.

Table 5.1 ESTIMATED EMISSIONS FROM ASPHALT PLANT

Pollutant	PM[a]	PM_{10}[b]	NO_x[c]	SO_2[d]	CO[e]	VOC[f]	Pb[g]
Potential Emission Rate (lb/hr)	5.8[h]	2.3[h]	24	17.6	80	7.2	2.0E-3
Potential Emission Rate (T/yr)	2.0[h]	0.81[h]	8.4	6.16	28	2.52	7.0E-4

a) Particulate matter
b) Particulate Matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
c) Nitrogen oxides
d) Sulfur dioxide
e) Carbon monoxide
f) Volatile organic compound
g) Lead
h) Emission rates based on permit limits

These estimated emissions are for emissions from the hot mix asphalt plant, which includes fuel-burning emissions. The facility has installed engineered enclosures around material drop points that increase particulate emissions control. The PM and PM_{10} emission rates were established in the SIP Tier II operating permit that was issued July 7, 1995. The particulate emissions were calculated when that permit was issued. The particulate emission rate is less than the amount that is estimated using AP-42 factors for HMA's. The particulate limits established in the 1995 permit were based on a grain loading emission rate from AP-42, Table 8.1-2, from the baghouse of 0.04 gr/dscf of total suspended particulate (TSP). It was estimated that 40% of the TSP was PM_{10}. The emissions from sources other than the dryer were included and limited as process fugitives and paved and unpaved roads.

In a letter dated August 20, 2002 from DEQ to Interstate Concrete and Asphalt Company, DEQ approved a source test which was conducted on September 17, 2001. In a letter dated October 7, 2002 from DEQ to Interstate Concrete and Asphalt Company, DEQ approved a source test which was conducted on August 22, 2002. These tests showed compliance with the particulate emission limits for the dryer which were established in the permit. Therefore, the emission estimates done for the 1995 permit are written into this permit.

The change in fuel does not result in an increase in estimated particulate or PM_{10} emissions per AP-42, Table 11.2-1, footnote (g), pertaining to the particulate matter emissions, as follows: "Batch mix dryer fired with natural gas, propane, fuel oil, waste oil, and coal. The data indicate that fuel type does not significantly effect PM emissions." Therefore, the PM and PM_{10} emission estimates for the facility are not expected to increase as a result of the additional types of fuel.

From AP-42, for all other pollutants, the emission factors for each type of fuel were compared, and the highest value for each pollutant was used to calculate the estimated emissions.

5.3 Modeling

DEQ reviewed the modeling analysis submitted by the facility and determined that it followed the DEQ Air Quality Modeling Guideline and demonstrated compliance with the applicable regulatory limits to the department's satisfaction.

From the permit application, the ambient pollutant concentrations are shown in Table 5.2. All values are as presented in the application, except for the NO_2 background concentration, which has been corrected to 17 $\mu g/m^3$.

Table 5.2 AMBIENT POLLUTANT CONCENTRATIONS

Pollutant	Averaging Period	Total Ambient Impact[a] ($\mu g/m^3$)[b]	Background Concentration ($\mu g/m^3$)	Total Ambient Concentration[c] ($\mu g/m^3$)	NAAQS[c] ($\mu g/m^3$)	Percent of NAAQS[c]
CO	8-hour	163	2,300	2,463	10,000	25
	1-hour	233	3,600	3,833	40,000	10
NO_2	Annual	6	17	23	100	23
SO_2	Annual	4	8	12	80	15
	24-hour	21	26	47	365	13
	3-hour	46	34	80	1,300	6

a. Impact from facility-wide emissions
b. Micrograms per cubic meter
c. National Ambient Air Quality Standards

The modeled concentrations, including the background, are less than the NAAQS. PM_{10} was not required to be analyzed because the emissions did not increase from this modification. The PM_{10} emissions were modeled previously as documented in a technical memorandum from Darrin Mehr to Brian Monson, both of DEQ, dated May 22, 1995. This memo was written for Tier II Operating Permit No. 017-00035, issued July 7, 1995. Since that time, no modifications to the facility as documented by permit modifications have caused an increase in PM_{10} emissions.

For toxic air pollutants (TAPs), air dispersion modeling indicated that all estimated TAPs were below the regulatory TAP increments from IDAPA 58.01.01.585 or 586 as shown in Tables 5.3 and 5.4. Some chemical compounds were estimated which are not listed in IDAPA 58.01.01.585 or 586.

For TAPs listed in IDAPA 58.01.01.585, a daily concentration limit applies, and the maximum hourly concentration was used in the modeling analysis to compare the estimated concentration to the regulatory limit. For the TAPs listed in IDAPA 58.01.01.586, an annual average concentration limit applies. The annual throughput limit on production limits the annual emission rate of Section 586 TAPs.

The maximum total annual emissions of each Section 586 TAP were estimated, and then an annual average hourly concentration was calculated for each Section 586 TAP for comparison to the annual concentration limits. A persistence factor of 0.4 was used for the 24-hour modeling demonstration, and 0.125 was used for the annual modeling demonstration.

The PTC application from the facility showed concentrations for Section 586 TAPs based on 8760 hours of operation at maximum capacity per year. This method does not incorporate the permit throughput restriction which reduces the estimated annual average hourly emissions. DEQ calculated the annual average hourly emission rate for the Section 586 TAPs as discussed with the facility on March 4, 2004.

Table 5.3 TOXICS MODELING RESULTS

Pollutant	Maximum Emissions (lb/hr)[a]	Modeled 1-hour Concentration (ug/m3)	Modeled annual average hourly concentration (ug/m3)	Modeled 24-hour Concentration (ug/m3)	Modeled Annual Concentration (ug/m3)	AAC or AACC (as applicable) (ug/m3)	Exceed?
Acetaldehyde[c]	6.40E-02	1.86E-01	1.49E-02		1.86E-03	4.50E-01	No
Benzene[c]	5.60E-02	1.63E-01	1.30E-02		1.63E-03	1.20E-01	No
Ethylbenzene[c]	4.40E-01	1.28E+00		5.13E-01		2.18E+04	No
Formaldehyde[c]	1.48E-01	4.31E-01	3.45E-02		4.31E-03	7.70E-02	No
Quinone[c]	5.40E-02	1.57E-01		6.29E-02		2.00E+01	No
Toluene[c]	2.00E-01	5.83E-01		2.33E-01		1.88E+04	No
Xylene[c]	5.40E-01	1.57E+00		6.29E-01		2.18E+04	No
Naphthalene[c]	7.20E-03	2.10E-02		8.39E-03		2.50E+03	No
Arsenic[c]	9.20E-05	2.68E-04	2.14E-05		2.68E-06	2.30E-04	No
Barium[c]	3.00E-04	8.74E-04		3.50E-04		2.50E+01	No
Beryllium[c]	3.00E-05	8.74E-05	6.99E-06		8.73E-07	4.20E-03	No
Cadmium[c]	1.22E-04	3.56E-04	2.84E-05		3.55E-06	5.60E-04	No
Chromium[c]	1.14E-04	3.32E-04		1.33E-04		2.50E+01	No
Copper[c]	5.60E-04	1.63E-03		6.53E-04		1.00E-02	No
Hexavalent Chromium[c]	9.60E-06	2.80E-05	2.24E-06		2.79E-07	8.30E-05	No
Lead	2.00E-03	5.83E-03		7.58E-04		1.50E+00	No
Manganese[c]	1.38E-03	4.02E-03		1.61E-03		5.00E+01	No
Mercury[c]	8.20E-05	2.39E-04		9.56E-05		5.00E-01	No
Nickel[c]	6.00E-04	1.75E-03	1.40E-04		1.75E-05	4.20E-03	No
Selenium[c]	9.80E-05	2.86E-04		1.14E-04		1.00E+01	No
Zinc[c]	1.36E-03	3.96E-03		1.59E-03		5.00E+01	No

Table 5.4 POLYAROMATIC HYDROCARBONS (PAH) MODELING RESULTS

Pollutant	Maximum Emissions (lb/hr)[a]	Modeled 1-hour Concentration (ug/m3)	Modeled annual average hourly concentration (ug/m3)	Modeled 24-hour Concentration (ug/m3)	Modeled Annual Concentration (ug/m3)	AAC or AACC (as applicable) (ug/m3)	Exceed?
Benzo(a)anthracene	9.20E-07	2.68E-06	2.14E-07		2.68E-08	3.00E-04	No
Benzo(b)fluoranthene	1.88E-06	5.48E-06	4.38E-07		5.47E-08	3.00E-04	No
Benzo(k)fluoranthene	2.60E-06	7.58E-06	6.05E-07		7.57E-08	3.00E-04	No
Chrysene	7.60E-07	2.21E-06	1.77E-07		2.21E-08	3.00E-04	No
Benzo(a)pyrene[c]	6.20E-08	1.81E-07	1.44E-08		1.80E-09	3.00E-04	No
Indeno(1,2,3-cd)pyrene	6.00E-08	1.75E-07	1.40E-08		1.75E-09	3.00E-04	No

Regulatory Review

This section describes the regulatory analysis of the applicable air quality rules with respect to this PTC.

IDAPA 58.01.01.201 ..... Permit to Construct Required

Interstate Concrete and Asphalt Company requested a modification of their existing facility to add the capability of using spec-oil which will emit air pollutants.

IDAPA 58.01.01.725 ..... Rules for Sulfur Content of Fuels

This section applies to fuels used by the facility. The applicable sections are copied as Permit Conditions 3.6 and 3.7.

40 CFR 60 Subpart I ..... Standards of Performance for Hot Mix Asphalt Facilities

This subpart is applicable to this modification of the hot mix asphalt facility. Per 60.90(b), this system "*commences construction or modification after June 11, 1973.*"

Section 60.92, Standard for particulate matter, states: *(a) On and after the date on which the performance test required to be conducted by 60.8 is completed, no owner or operator subject to the provisions of this subpart shall discharge or cause the discharge into the atmosphere from any affected facility any gases which: (1) Contain particulate matter in excess of 90 mg/dscm (0.04 gr/dscf). (2) Exhibit 20 percent opacity, or greater.*

Section 60.93 describes testing requirements. The permit requires testing in Permit Condition 3.16 for grain loading and opacity.

40 CFR 60 Subpart OOO ..... Standards of Performance for Nonmetallic Mineral Processing Plants

Subpart OOO does not apply to the hot mix asphalt facility.

The section for applicability and designation of affected facility, 60.670 (a)(1), is as follows: *"Except as provided in paragraphs (a)(2), (b), (c), and (d) of this section, the provisions of this subpart are applicable to the following affected facilities in fixed or portable nonmetallic mineral processing plants: each crusher, grinding mill, screening operation, bucket elevator, belt conveyor, bagging operation, storage bin, enclosed truck or railcar loading station. Also, crushers and grinding mills at hot mix asphalt facilities that reduce the size of nonmetallic minerals embedded in recycled asphalt pavement and subsequent affected facilities up to, but not including, the first storage silo or bin are subject to the provisions of this subpart."*

[break in section]

"(b) An affected facility that is subject to the provisions of subpart F or I or that follows in the plant process any facility subject to the provisions of subparts F or I of this part is not subject to the provisions of this subpart."

This facility is subject to Subpart I, and, per Subpart OOO (b), Subpart OOO is not applicable to facilities which are subject to Subpart I.

40 CFR 279 ..... Standards for the Management of Used Oil

Subpart 11 defines when used oil is not subject to Part 279, as follows:

"Used oil burned for energy recovery, and any fuel produced from used oil by processing, blending, or other treatment, is subject to regulation under this part unless it is shown not to exceed any of the allowable levels of the constituents and properties in the specification shown in Table 1. Once used oil that is to be burned for energy recovery has been shown not to exceed any specification and the person making that showing complies with §§279.72, 279.73, and 279.74(b), the used oil is no longer subject to this part.

Table 1_Used Oil Not exceeding Any Specification Level Is Not Subject to This Part When Burned for Energy Recovery \1

Constituent/property	*Allowable level*
Arsenic	*5 ppm maximum.*
Cadmium	*2 ppm maximum.*
Chromium	*10 ppm maximum.*
Lead	*100 ppm maximum.*
Flash point	*100 °F minimum.*
Total halogens	*4,000 ppm maximum.\2*

Note: Applicable standards for the burning of used oil containing PCBs are imposed by 40 CFR 761.20(e).

\1\ The specification does not apply to mixtures of used oil and hazardous waste that continue to be regulated as hazardous waste (see § 279.10(b)).

\2\ Used oil containing more than 1,000 ppm total halogens is presumed to be a hazardous waste under the rebuttable presumption provided under § 279.10(b)(1). Such used oil is subject to subpart H of part 266 of this chapter rather than this part when burned for energy recovery unless the presumption of mixing can be successfully rebutted."

Permit Condition 3.9 requires compliance with the specifications listed in Table 1 above, except that the limit for total halogens has been reduced from 4,000 ppm to 1,000 ppm as agreed between DEQ and the facility in April 2004.

Subparts 72, 73, and 74 contain fuel testing requirements, record retention, and fuel marketer requirements. These requirements will be met by the spec oil supplier.

5.5 Fee Review

A PTC application fee of $1,000 is required per IDAPA 58.01.01.224. The fee was paid on February 3, 2004. The PTC processing fee was combined with the Tier II operating permit renewal fee. The Tier II operating permit renewal fee is $10,000 as required by IDAPA 58.01.01.407 for a synthetic minor stationary source with permitted emissions below a major threshold level. Table 5.1 shows the permitted emissions of pollutants and the calculated fee. Note that, although all the pollutants are emitted and are inherently limited in the permit by surrogate parameters, such as throughput, only the PM_{10} emissions have a pollutant-specific limit in the permit. Because the project was changed from a PTC to a Tier II operating permit, and subsequent Tier II operating processing fees, the assessed processing fee should be $9,000. ($10,000 T2 SM fee – PTC application fee = $9,000).

Table 5.1 TIER II RENEWAL FEE SUMMARY

Emissions Inventory	
Pollutant	**Permitted Emissions**
NO_x	8.4
SO_2	6.16
CO	28
PM_{10}	0.85
VOC	2.52
TAPS/HAPS	6.64
Total:	52.6
Fee Due	**$10,000.00**

5.6 *Regional Review of Draft Permit*

A draft permit was made available for review by the Coeur d'Alene Regional Office. Comments were received on May 18, 2004. The comments were incorporated.

5.7 *Facility Review of Draft Permit*

A draft permit was provided for facility review on April 21, 2004. No comments were received.

6. PERMIT CONDITIONS

This section summarizes the changes made to the Tier II operating permit. The Tier II permit format is updated as follows:

- Add facility-wide permit conditions
- Update the IDAPA references to the new numbering system (currently IDAPA 58, formerly IDAPA 16)
- Remove permit limits which applied only until July 1, 1996
- Require continued compliance with conditional control measures
- Reference updated fugitive dust control plan
- Renumber permit conditions and tables

Permit Condition 2.0

A facility-wide section was added to the PTC/Tier II operating permit in accordance with the most recent format for Tier II operating permits.

Permit Condition 3.3.1.1

The permitted production capacity value was updated to 200 tons per hour. This permit condition was written prior to the installation of the required conditional control measures and source testing.

Permit Condition 3.3.2

The stack description was updated to clarify that the stack is rectangular, not square.

Permit Condition 3.4

This permit condition was clarified to show that PM includes condensibles in accordance with IDAPA 58.01.01.006.66. Also, the references to the tables that contain the particulate emissions limits were updated to the format of this permit.

Permit Condition 3.5

The fuel supplied to the drum dryer shall be natural gas, liquefied petroleum gas (propane), ASTM Grade 1 fuel oil, ASTM Grade 2 fuel oil, or used oil. Any used oil supplied to the drum dryer shall meet the specifications in 40 CFR 279.11, with the exception of total halogens, as provided in Permit Condition 3.9. Total halogens are limited to 1,000 ppm.

Permit Condition 3.6

No ASTM Grade 1 fuel oil containing sulfur in excess of 0.3% by weight shall be burned in the drum dryer.

Permit Condition 3.7

No ASTM Grade 2 fuel oil containing sulfur in excess of 0.5% by weight shall be burned in the drum dryer.

Permit Condition 3.8

No used oil fuel containing sulfur in excess of 0.5% by weight shall be burned in the drum dryer.

Permit Condition 3.9

In accordance with 40 CFR 279.11, with the exception of total halogens which are limited to 1,000 ppm, used oil burned for energy recovery shall not exceed any of the allowable levels of the constituents and properties listed in Table 3.3.

Table 3.3 USED OIL SPECIFICATIONS[1]

Constituent/property	Allowable level
Arsenic	5 ppm[2] maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Flash point	100 deg. F minimum
Total halogens	1,000 ppm maximum

[1] The specification does not apply to mixtures of used oil and hazardous waste that continue to be regulated as hazardous waste (see 40 CFR 279.10(b)).
[2] Parts per million

Permit Conditions 3.15, 4.7, and 5.6

All recordkeeping maintenance time periods have been changed to five years (previously two years) to update to the current recordkeeping format. Because this is a new requirement, recordkeeping for the three years prior to the issuance of this permit have not been required to be maintained. Therefore, the permit conditions that require recordkeeping for five years have been modified to add the phrase, "beginning two years prior to the issuance of Permit No. T2-040102," where applicable. The new recycled waste oil requirement does not contain this phrase because waste oil will not have been used prior to issuance of this permit.

Permit Conditions 3.11 through 3.14

These permit conditions require that the baghouse be used during operation of the dryer, that equipment be installed to measure the pressure differential across the baghouse, and that the baghouse shall be operated in accordance with an operation and maintenance manual that is required to be developed.

Permit Condition 3.15

The requirement in the previous permit that requires that access to throughput log records be granted to DEQ representatives upon request was combined with Permit Condition 3.15 which specifies other requirements about throughput records. This permit condition has been revised to the following:

The permittee shall monitor and record the following information. Records of this information, beginning two years prior to the issuance of Tier II Operating Permit and Permit to Construct No. T2-040102, shall be kept on site for the most recent five-year period and shall be made available to DEQ representatives upon request.

- *Hot-mix asphalt production to demonstrate compliance with Permit Condition 3.10. Annual production shall be determined by summing daily production monthly, and summing monthly production over the previous consecutive 12-month period.*

- *Type and amount of fuel used in the drum dryer burner on a daily basis. The amount of gas fuel used shall be recorded in units of cubic feet. The amount of liquid fuel used shall be recorded in units of gallons.*

- *The pressure drop across the drum dryer baghouse once per day when the hot-mix asphalt plant is operating to demonstrate compliance with Permit Condition 3.14.*

Permit Condition 3.16

This permit condition was reworded.

Original wording:

3.16.1 The permittee shall conduct a performance test at a frequency of no less than once every year to demonstrate compliance with both the 0.040 grains per dry standard cubic foot (gr/dscf) NSPS emission limit for Hot Mix Asphalt Plants and the hourly PM_{10} emission limit in Appendix A. The permittee may show compliance with the hourly emission limit PM_{10} by conducting a performance test to measure Total Suspended Particulate (TSP) emissions from the Drum Dryer baghouse using EPA Reference Method 5 and 202 back half catch analysis. The resulting pound per hour (lb/hr) emission rate demonstrated by the source test shall be multiplied by a factor of 0.40 to establish the hourly PM_{10} emission rate. The permittee shall have the option of performing a Method 201 or 201A performance test with Method 202 Analysis on the drum dryer baghouse stack. Visible emissions shall be observed during this test using the methods in IDAPA 58.01.01.625.

3.16.2 During performance testing, the following data shall be recorded:

- *Process weight rate (tons of asphalt produced per hour).*
- *Burner fuel flow rate.*
- *Change in pressure drop across the baghouse.*

Revised wording:

3.16.1 Within 60 days after achieving the maximum production rate at which the affected facility will operate but not later than 180 days after initial start up of the source, a performance test shall be conducted on the hot-mix asphalt plant in accordance with 40 CFR 60.93 and IDAPA 58.01.01.157. The performance test shall be conducted to demonstrate compliance with the applicable PM standards defined in 40 CFR 60.92. The following shall be monitored and recorded during the performance tests:

- *The hourly production rate of the hot-mix asphalt plant expressed as tons per hour*
- *The pressure drop across the baghouse*
- *The visible emissions observed during the performance tests*
- *Operating variables used to demonstrate worst-case normal operating conditions*

3.16.2 The permittee shall conduct performance tests at a frequency of no less than once every year to demonstrate compliance with both the 0.04 grains per dry standard cubic foot (gr/dscf), the 20% opacity NSPS emission limits for Hot Mix Asphalt Plants, and the hourly PM and PM_{10} emission limits in Table 3.2. The permittee may show compliance with the hourly emission limit PM_{10} by conducting a performance test to measure Total Suspended Particulate (TSP) emissions from the Drum Dryer baghouse using EPA Reference Method 5 and 202 back half catch analysis. The resulting pound per hour (lb/hr) emission rate demonstrated by the source test shall be multiplied by a factor of 0.40 to establish the hourly PM_{10} emission rate. The permittee shall have the option of performing a Method 201 or 201A performance test with Method 202 Analysis on the drum dryer baghouse stack. Visible emissions shall be observed during this test using the methods in IDAPA 58.01.01.625.

A question arose regarding the origin of the 0.40 factor used in Permit Condition 3.16.2. This factor was established in the original SIP permit issued on July 7, 1995. The factor is used to calculate the PM_{10} fraction of the PM from the test results.

Permit Condition 3.17

The permittee shall demonstrate compliance with the used oil fuel specifications in Permit Condition 3.9 by obtaining a used oil fuel certification from the used oil fuel supplier on an as-received basis. The certification shall include the following information:

- *The name and address of the used oil supplier*
- *The measured concentration, expressed as ppm, of each constituent listed in Table 3.3*
- *The flash point of the used oil expressed as degrees Fahrenheit*
- *The analytical method or methods used to determine the concentration of each constituent and property (flash point) listed in Table 3.3*
- *The date and location of each sample*
- *The date of each certification analysis*

Records of each certification shall remain on site for the most recent five-year period and shall be made available to DEQ representatives upon request.

Permit Condition 3.18

The permittee shall demonstrate compliance with the fuel oil sulfur content limits specified in Permit Conditions 3.6, 3.7, and 3.8 by obtaining documentation of the sulfur content analysis for each shipment of fuel oil (ASTM Grade 1fuel oil, ASTM Grade 2 fuel oil ,and used oil) on an as-received basis. Records of each fuel oil sulfur content analysis shall remain onsite for the most recent five-year period and shall be made available to DEQ representatives upon request.

Permit Condition 3.20

This requirement was reworded slightly for clarity.

Original wording:

The permittee shall provide notice to the DEQ within 10 days of making the change, as described in Section 3.2.1 of this permit section.

Revised wording:

The permittee shall provide notice to the DEQ within 10 days of making any changes to the engineering enclosures as described in Section 3.2.1 of this permit.

Permit Conditions 3.21 and 3.22

A performance test protocol and test report are required to be submitted for each performance test conducted.

Permit Condition 4.4

This permit condition was clarified to show that PM includes condensibles in accordance with IDAPA 58.01.01.006.66. Also, the references to the tables that contain the particulate emissions limits were updated to the format of this permit.

Section 5 Heading

The heading for Section 5 of the permit was changed from Fugitive Emission Sources to Specific Requirements For Fugitive Emission Sources Required by the Sandpoint SIP to clarify the scope of the requirements of this permit section.

Permit Condition 5.2.2

The heading for the permit condition was changed from Vehicle Traffic Emissions Proposed Control for Conditional Control Measures to Vehicle Traffic Emissions Control for Conditional Control Measures because the conditional controls have been implemented. Also, the permittee is required to maintain (rather than increase) fugitive PM_{10} control strategies.

Permit Condition 5.3

The heading for the permit condition was changed from Proposed Conditional Control Measures for Vehicle Traffic to Conditional Control Measures for Vehicle Traffic because the conditional control measures have been implemented. In addition, now the permit condition requires that the permittee maintain control measures (rather than increase control measures) and maintain the pavement (rather than pave the access roads and scale area).

7. PUBLIC COMMENT

The permit number that was assigned to this PTC action for the facility draft, P-040102, has been changed to T2-040102 to reflect that the PTC is incorporated into an existing Tier II operating permit.

A public comment period on the proposed PTC and application materials was provided from March 23, 2005 through April 21, 2005 in accordance with IDAPA 58.01.01.209.01.c. No comments were received.

8. RECOMMENDATION

Based on the review of the application materials, and all applicable state and federal regulations, staff recommends that DEQ issue PTC/Tier II Operating Permit No. T2-040102 to Interstate Concrete and Asphalt Company.

CZ/sd Permit No. T2-040102

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APPENDIX A

Interstate Concrete and Asphalt Co.

Emissions Inventory

P-040102

Technical Analysis

February 19, 2004

Interstate Concrete & Asphalt, Sandpoint

P-040102

Prepared by:

Dan Pitman, Senior Engineer
Division of Technical Services

Acronyms, Units, and Chemical Nomenclatures

acfm	actual cubic feet per minute
CO	carbon monoxide
DEQ	Department of Environmental Quality
lb/hr	pound per hour
NO_X	nitrogen oxides
PM	Particulate Matter
PM_{10}	Particulate Matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
SO_2	sulfur dioxide
T/yr	Tons per year

PURPOSE

The purpose for this memorandum is to review the emissions estimates provided by Interstate Asphalt & Concret (Interstate) in a permit to construct application for their Sandpoint facility.

PROJECT DESCRIPTION

Interstate is proposing to use waste oil and fuel oil in addition to natural gas in a batch mix asphalt plant.

TECHNICAL ANALYSIS

Process Description

Aggregate is heated and dried in a drying drum. The heated and dried aggregate is then mixed in batches with liquid asphalt cement in a mixer. Particulate matter emissions from the drum dryer are controlled by a baghouse.

Equipment Listing

Barber Greene DA-65 Drum Dryer

Emission Estimates

DEQ conducted confirmatory emission estimates to compare to the emission estimates supplied by the applicant for a 200 ton per hour batch mix asphalt plant. The applicant proposed an annual production limitation of 140,000 tons per year. Both the applicant's and DEQ's emissions estimates are based on EPA AP-42[1], Section 11.1 emissions factors for batch mix asphalt plants. Appendix A contains DEQ's emissions estimates for the batch mix asphalt plant while firing natural gas, number 2 fuel oil and waste oil. Appendix B contains a summary of DEQ's emission estimates which are identical to the applicant's emission estimates except for particulate matter (PM), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM_{10}), lead and benzo(a)pyrene. Rather than estimate emissions for PM and PM_{10} the applicant gave what it stated were permitted emission limits as emissions rates. The applicant did not estimate emissions of lead, benzo(a)pyrene emissions estimates given by the applicant are actually the sum of all of the individual toxic air pollutants that the applicant determined make up polyaromatic hydrocarbon mixtures.

Table 1 gives a summary of the criteria air pollutant emission estimates for the batch mix asphalt plant drum dryer. Values given in parentheses are the applicant's emissions estimates that differ from DEQ's confirmatory emission estimates. Lead emissions estimates given in the table are from DEQ's confirmatory emissions estimates, the applicant did not estimate emissions of lead.

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[1] *Compilation of Air Pollutant Emission Factors* (AP-42), Fifth Edition, Volume I: *Stationary Point and Area Sources*, U. S. Environmental Protection Agency, Washington, DC.

Table 1. Potential Emissions from Drum Dryer

Pollutant	PM[a]	PM_{10}[b]	NO_x[c]	SO_2[d]	CO[e]	VOC[f]	Pb[g]
Potential Emission Rate (lb/hr)	8.4 (5.8)[h]	5.4 (2.3)[h]	24	17.6	80	7.2	2.0E-3
Potential Emission Rate (T/yr)	2.94 (2.0)[h]	1.89 (0.81)[h]	8.4	6.16	28	2.52	7.0E-4

a) Particulate matter
b) Particulate Matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
c) Nitrogen oxides
d) Sulfur dioxide
e) Carbon monoxide
f) Volatile organic compound
g) Lead
h) Emission rates given by the applicant that are stated to be based on permit limits

Stack Parameter Basis

The applicant provided stack and exhaust gas parameters in the application. An induced draft fan moves the air through the dryer to the baghouse. Table 2 gives the stack parameters provided in the application.

Table 2. Stack Parameters for Asphalt Plant Dryer

Emission Unit	Stack Height (ft)	Stack Diameter (ft)	Gas Flowrate (acfm)	Stack Temp. (°F)
CMI PTD-400 Hot Mix Asphalt Plant Dryer	36	3.15	28,750	275

Operating Parameters

Operational Factors

Air pollution emission estimates from the batch mix asphalt plant drum dryer are dependent on the rate at which aggregate is processed through the dryer, the type of fuel that is used by the dryer and the type of air pollution control device used. The emission estimates in this memorandum are based on: an aggregate throughput of 200 tons per hour and 140,000 tons per year; the fuel used is either waste oil, natural gas or number 2 fuel oil; and the air pollution control device is a baghouse. Emissions estimates for the dryer while using natural gas as a fuel can be assumed to be equivalent to emissions that would occur when the dryer is utilizing propane as a fuel.

No emission factors were available for batch mix asphalt plants while using recycled asphalt pavement (RAP). However, according to AP-42 (Table 11.1-12, footnote a.) metal emissions from the drum mix asphalt plants while processing RAP and regular aggregate are the same. It would be expected that metal emissions from batch mix asphalt plants are also the same whether processing regular aggregate or RAP. For all other

pollutants AP-42 Table 11.1-10, footnote b, says that emissions tests on processing RAP in drum mix dryers yielded limited data, so the effect of RAP processing on emissions could not be determined.

DPP/dppP-040102

Appendix A

Batch Mix Dryer Emissions Estimates

Interstate Concrete and Asphalt, Sandpoint

Waste Oil Fired Batch Mix HMA with Fabric Filter

Hourly Throughput 200 T/hr
Annual Throughput 140000 T/yr

[redacted]			
PM (total)	0.042	8.4	2.94
PM-10 (total)	0.027	5.4	1.89
CO	0.4	80	28
NOx	0.12	24	8.4
SO2	0.088	17.6	6.16
VOC[e]	0.036	7.2	2.52
Acetaldehyde[f]	0.00032	0.064	0.0224
Benzene[f]	0.00028	0.056	0.0196
Ethylbenzene[f]	0.0022	0.44	0.154
Formaldehyde[f]	0.00074	0.148	0.0518
Quinone[f]	0.00027	0.054	0.0189
Toluene[f]	0.001	0.2	0.07
Xylene[f]	0.0027	0.54	0.189
2-Methylnaphthalene	7.10E-05	0.0142	4.97E-03
Acenaphthene	9.00E-07	1.80E-04	6.30E-05
Acenaphthylene	5.80E-07	1.16E-04	4.06E-05
Anthracene	2.10E-07	4.20E-05	1.47E-05
Benzo(a)anthracene	4.60E-09	9.20E-07	3.22E-07
Benzo(a)pyrene[f]	3.10E-10	6.20E-08	2.17E-08
Benzo(b)fluoranthene	9.40E-09	1.88E-06	6.58E-07
Benzo(g,h,i)perylene	5.00E-10	1.00E-07	3.50E-08
Benzo(k)fluoranthene	1.30E-08	2.60E-06	9.10E-07
Chrysene	3.80E-09	7.60E-07	2.66E-07
Dibenza(a,h)anthracene	9.50E-11	1.90E-08	6.65E-09

[redacted]			
Fluoranthene	2.40E-05	4.80E-03	1.68E-03
Fluorene	1.60E-06	3.20E-04	1.12E-04
Indeno(1,2,3-cd)pyrene	3.00E-10	6.00E-08	2.10E-08
Naphthalene[f]	3.60E-05	7.20E-03	2.52E-03
Phenanthrene	3.70E-05	7.40E-03	2.59E-03
Pyrene	5.50E-05	1.10E-02	3.85E-03
Benzaldehyde	0.00013	2.60E-02	9.10E-03
Butyraldehyde	3.00E-05	6.00E-03	2.10E-03
Crotonaldehyde[f]	2.90E-05	5.80E-03	2.03E-03
Hexanal	2.40E-05	4.80E-03	1.68E-03
Arsenic[f]	4.60E-07	9.20E-05	3.22E-05
Barium[f]	1.50E-06	3.00E-04	1.05E-04
Beryllium[f]	1.50E-07	3.00E-05	1.05E-05
Cadmium[f]	6.10E-07	1.22E-04	4.27E-05
Chromium[f]	5.70E-07	1.14E-04	3.99E-05
Copper[f]	2.80E-06	5.60E-04	1.96E-04
Hexavalent Chromium[f]	4.80E-08	9.60E-06	3.36E-06
Lead	1.00E-05	2.00E-03	7.00E-04
Manganese[f]	6.90E-06	1.38E-03	4.83E-04
Mercury[f]	4.10E-07	8.20E-05	2.87E-05
Nickel[f]	3.00E-06	6.00E-04	2.10E-04
Selenium[f]	4.90E-07	9.80E-05	3.43E-05
Zinc[f]	6.80E-06	1.36E-03	4.76E-04

a) Emission factors are from AP-42 11.1, Hot Mix Asphalt Plants
b) Pounds per ton
c) Pounds per hour
d) Tons per year
e) Assumes VOC emissions from burning wasteoil are equivalent to VOC emissions from burning #6 Fuel oil
f) IDAPA Toxic Air Pollutant

Interstate Concrete and Asphalt, Sandpoint

Natural Gas Fired Batch Mix HMA with Fabric Filter

Hourly Throughput	200 T/hr
Annual Throughput	140000 T/yr

PM (total)	0.042	8.4	2.94
PM-10 (total)	0.027	5.4	1.89
CO	0.4	80	28
NOx	0.025	5	1.75
SO2	0.0046	0.92	0.322
VOC	0.0082	1.64	0.574
Acetaldehyde[e]	0.00032	0.064	0.0224
Benzene[e]	0.00028	0.056	0.0196
Ethylbenzene[e]	0.0022	0.44	0.154
Formaldehyde[e]	0.00074	0.148	0.0518
Quinone[e]	0.00027	0.054	0.0189
Toluene[e]	0.001	0.2	0.07
Xylene[e]	0.0027	0.54	0.189
2-Methylnaphthalene	7.10E-05	0.0142	0.00497
Acenaphthene	9.00E-07	1.80E-04	0.000063
Acenaphthylene	5.80E-07	1.16E-04	0.0000406
Anthracene	2.10E-07	4.20E-05	0.0000147
Benzo(a)anthracene	4.60E-09	9.20E-07	3.22E-07
Benzo(a)pyrene[e]	3.10E-10	6.20E-08	2.17E-08
Benzo(b)fluoranthene	9.40E-09	1.88E-06	6.58E-07
Benzo(g,h,i)perylene	5.00E-10	1.00E-07	3.5E-08
Benzo(k)fluoranthene	1.30E-08	2.60E-06	0.00000091
Chrysene	3.80E-09	7.60E-07	2.66E-07
Dibenza(a,h)anthracene	9.50E-11	1.90E-08	6.65E-09

Fluoranthene	1.60E-07	3.20E-05	1.12E-05
Fluorene	1.60E-06	3.20E-04	1.12E-04
Indeno(1,2,3-cd)pyrene	3.00E-10	6.00E-08	2.10E-08
Naphthalene[e]	3.60E-05	7.20E-03	2.52E-03
Phenanthrene	2.60E-06	5.20E-04	1.82E-04
Pyrene	6.20E-08	1.24E-05	4.34E-06
Benzaldehyde	0.00013	2.60E-02	9.10E-03
Butyraldehyde	3.00E-05	6.00E-03	2.10E-03
Crotonaldehyde[e]	2.90E-05	5.80E-03	2.03E-03
Hexanal	2.40E-05	4.80E-03	1.68E-03
Arsenic[e]	4.60E-07	9.20E-05	3.22E-05
Barium[e]	1.50E-06	3.00E-04	1.05E-04
Beryllium[e]	1.50E-07	3.00E-05	1.05E-05
Cadmium[e]	6.10E-07	1.22E-04	4.27E-05
Chromium[e]	5.70E-07	1.14E-04	3.99E-05
Copper[e]	2.80E-06	5.60E-04	1.96E-04
Hexavalent Chromium[e]	4.80E-08	9.60E-06	3.36E-06
Lead	8.90E-07	1.78E-04	6.23E-05
Manganese[e]	6.90E-06	1.38E-03	4.83E-04
Mercury[e]	4.10E-07	8.20E-05	2.87E-05
Nickel[e]	3.00E-06	6.00E-04	2.10E-04
Selenium[e]	4.90E-07	9.80E-05	3.43E-05
Zinc[e]	6.80E-06	1.36E-03	4.76E-04

a) Emission factors are from AP-42 11.1, Hot Mix Asphalt Plants
b) Pounds per ton
c) Pounds per hour
d) Tons per year
e) IDAPA Toxic Air Pollutant

Interstate Concrete and Asphalt, Sandpoint

#2 Fuel Oil Fired Batch Mix HMA with Fabric Filter

Hourly Throughput 200 T/hr
Annual Throughput 140000 T/yr

PM (total)	0.042	8.4	2.94
PM-10 (total)	0.027	5.4	1.89
CO	0.4	80	28
NOx	0.12	24	8.4
SO2	0.088	17.6	6.16
VOC	0.0082	1.64	0.574
Acetaldehyde[e]	0.00032	0.064	0.0224
Benzene[e]	.0.00028	0.056	0.0196
Ethylbenzene[e]	0.0022	0.44	0.154
Formaldehyde[e]	0.00074	0.148	0.0518
Quinone[e]	0.00027	0.054	0.0189
Toluene[e]	0.001	0.2	0.07
Xylene[e]	0.0027	0.54	0.189
2-Methylnaphthalene	7.10E-05	0.0142	0.00497
Acenaphthene	9.00E-07	1.80E-04	6.30E-05
Acenaphthylene	5.80E-07	1.16E-04	4.06E-05
Anthracene	2.10E-07	4.20E-05	1.47E-05
Benzo(a)anthracene	4.60E-09	9.20E-07	3.22E-07
Benzo(a)pyrene[e]	3.10E-10	6.20E-08	2.17E-08
Benzo(b)fluoranthene	9.40E-09	1.88E-06	6.58E-07
Benzo(g,h,i)perylene	5.00E-10	1.00E-07	3.50E-08
Benzo(k)fluoranthene	1.30E-08	2.60E-06	9.10E-07
Chrysene	3.80E-09	7.60E-07	2.66E-07
Dibenzo(a,h)anthracene	9.50E-11	1.90E-08	6.65E-09

Fluoranthene	1.60E-07	3.20E-05	1.12E-05
Fluorene	1.60E-06	3.20E-04	1.12E-04
Indeno(1,2,3-cd)pyrene	3.00E-10	6.00E-08	2.10E-08
Naphthalene[e]	3.60E-05	7.20E-03	2.52E-03
Phenanthrene	2.60E-06	5.20E-04	1.82E-04
Pyrene	6.20E-06	1.24E-05	4.34E-06
Benzaldehyde	0.00013	2.60E-02	9.10E-03
Butyraldehyde	3.00E-05	6.00E-03	2.10E-03
Crotonaldehyde[e]	2.90E-05	5.80E-03	2.03E-03
Hexanal	2.40E-05	4.80E-03	1.68E-03
Arsenic[e]	4.60E-07	9.20E-05	3.22E-05
Barium[e]	1.50E-06	3.00E-04	1.05E-04
Beryllium[e]	1.50E-07	3.00E-05	1.05E-05
Cadmium[e]	6.10E-07	1.22E-04	4.27E-05
Chromium[e]	5.70E-07	1.14E-04	3.99E-05
Copper[e]	2.80E-06	5.60E-04	1.96E-04
Hexavalent Chromium[e]	4.80E-08	9.60E-06	3.36E-06
Lead	8.90E-07	1.78E-04	6.23E-05
Manganese[e]	6.90E-06	1.38E-03	4.83E-04
Mercury[e]	4.10E-07	8.20E-05	2.87E-05
Nickel[e]	3.00E-06	6.00E-04	2.10E-04
Selenium[e]	4.90E-07	9.80E-05	3.43E-05
Zinc[e]	6.80E-06	1.36E-03	4.76E-04

a) Emission factors are from AP-42 11.1, Hot Mix Asphalt Plants
b) Pounds per ton
c) Pounds per hour
d) Tons per year
e) IDAPA Toxic Air Pollutant

APPENDIX B

Interstate Concrete and Asphalt Co.

AIRS Form

P-040102

AIRS/AFS[a] FACILITY-WIDE CLASSIFICATION[b] DATA ENTRY FORM

Facility Name: Interstate Concrete and Asphalt Company
Facility Location: Sandpoint
AIRS Number: 017-00048

AIR PROGRAM POLLUTANT	SIP	PSD	NSPS (Part 60)	NESHAP (Part 61)	MACT (Part 63)	SM80	TITLE V	AREA CLASSIFICATION A-Attainment U-Unclassified N- Nonattainment
SO_2	B							
NO_x	SM							
CO	SM							
PM_{10}	SM							
PT (Particulate)	SM		SM					
VOC	B							
THAP (Total HAPs)	B							
			APPLICABLE SUBPART					
			I					

[a] Aerometric Information Retrieval System (AIRS) Facility Subsystem (AFS)

[b] AIRS/AFS Classification Codes:

A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For HAPs only, class "A" is applied to each pollutant which is at or above the 10 T/yr threshold, or each pollutant that is below the 10 T/yr threshold, but contributes to a plant total in excess of 25 T/yr of all HAPs.

SM = Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.

B = Actual and potential emissions below all applicable major source thresholds.

C = Class is unknown.

ND = Major source thresholds are not defined (e.g., radionuclides).